Professor Vivian Wing-Wah YAM

Philip Wong Wilson Wong Professor in Chemistry and Energy
BSc(Hons), PhD, CSci, CChem, FRSC
Member of the Chinese Academy of Sciences
Foreign Associate of the National Academy of Sciences, USA
Fellow, TWAS, The Academy of Sciences for the Developing World

Present Position and Affiliation: Philip Wong Wilson Wong Professor in Chemistry and Energy and Chair Professor, Department of Chemistry, The University of Hong Kong

Areas of Specialism/Research Interests: Inorganic/Organometallic Chemistry, Photochemistry and Solar Energy Research, Supramolecular Chemistry, Molecular Functional Materials

Qualifications: Ph.D. 1988 (The University of Hong Kong); B.Sc.(First Class Hons.) 1985 (The University of Hong Kong); Member (Academician) of Chinese Academy of Sciences (CAS); Foreign Associate of the National Academy of Sciences (NAS), USA; Fellow, TWAS, The Academy of Sciences for the Developing World; CSci, CChem, FRSC

Experience (Teaching/Professional): Lecturer, City Polytechnic of Hong Kong (1988-90); Lecturer (1990-95), Senior Lecturer (1995-97), Professor (1997-99), Chair Professor (1999-), Head of Chemistry (1/2000-12/2005), Philip Wong Wilson Wong Professor in Chemistry and Energy (2009-), The University of Hong Kong; Director, Areas of Excellence on Institute of Molecular Functional Materials, University Grants Committee (2010-)

Awards: Elected Member (Academician) of the Chinese Academy of Sciences (CAS) (since 2001); Elected Foreign Associate of the National Academy of Sciences (NAS), USA (since 2012); Elected Fellow, TWAS, The Academy of Sciences for the Developing World (since 2006); L'ORÉAL-UNESCO "For Women in Science" Award (Asia-Pacific Laureate) (2011); 2005/06 Royal Society of Chemistry Centenary Lectureship and Medal; State Natural Science Award (Second Class Prize) (2005); Japanese Photochemistry Association (JPA) Lectureship Award for Asian and Oceanian Photochemist ((Eikohsha Award) (2006); Ho Leung Ho Lee Foundation Prize for Scientific and Technological Progress (2011); Hong Kong Fulbright Distinguished Scholar (2007); Croucher Foundation Senior Research Fellow (2000-01); HKU Distinguished Research Achievement Award (2006-07); HKU Outstanding Researcher Award (1999-2000); Ten Outstanding Young Persons (Professional) of Hong Kong (2002); Hong Kong Outstanding Women Professionals and Entrepreneurs Award (2008)

Plenary/Keynote/Invited Lectures: A total of > 30 plenary, 3 award, > 25 session/keynote/named and >70 invited lectures at international conferences. Selected examples include RSC Dalton Division Symposium on Supramolecular Photochemistry, Nottingham, 2006 (RSC Centenary Lecture and Medal Presentation); Japanese Photochemistry Association (JPA) Annual Meeting, Sendai, 2006 (JPA Eikohsha Award Lecture); Glenn Seaborg Lectures, University of California, Berkeley, 2013 (2012-13 Seaborg Lectureship); 42nd IUPAC Congress, Glasgow, 2009 (Plenary); 26th International Conference on Organometallic Chemistry (ICOMC-2014), Sapporo, Japan, 2014 (Plenary); 39th International Conference on Coordination Chemistry (39th ICCC), Adelaide, 2010 (Plenary); 35th ICCC, Heidelberg, 2002 (Plenary); RSC International Symposium on Advancing the Chemical Sciences (ISACS-10) on "Challenges in Supramolecular Chemistry and Organic Materials", Kyoto, 2013 (Plenary); International Conference on Science and Technology of Synthetic Metals (ICSM2012), Atlanta, USA, 2012 (Plenary); XVIth FECHEM Conference on Organometallic Chemistry, Budapest, 2005 (Plenary); 4th EuCheMS Conference on Nitrogen Ligands, Garmisch-Partenkirchen, 2008 (Plenary); XXIVth IUPAC Symposium on Photochemistry, Coimbra, Portugal, 2012 (Plenary); 19th International Symposium on the Photochemistry and Photophysics of Coordination Compounds (ISPPCC), Strasbourg, 2011 (Plenary); RSC International Symposium on Advancing the Chemical Sciences (ISACS-3) on "Challenges in Inorganic and Materials Chemistry", Hong Kong, 2010 (Plenary); Distinguished Asian Visiting Speaker Lecture, University of Alberta, Canada, 2013 (2012-13 Distinguished Asian Visiting Speaker Lectureship Award); Gold 2006, Limerick, 2006 (Plenary); International Symposium on Chemical Conversion of Light Energy, Annual Meeting of the Chemical Society of

Japan, Osaka, 2010 (Plenary); 39th IUPAC Congress, Ottawa, 2003 (Keynote); Euresco Conference on Molecular Rods, Wires and Switches, San Feliu de Guixols, 2002 (Keynote); 21st International Conference on Organometallic Chemistry (ICOMC), Vancouver, 2004 (Session); Materials Research Society (MRS) Meetings, San Francisco 2011, 2007 & Boston 2004 (Invited); National Meetings of the American Chemical Society, Boston 2010, San Diego 2005 & New York 2003 (Invited); 11th International Symposium on Novel Aromatic Compounds (ISNA-11), Newfoundland, 2005 (Plenary); Royal Australian Chemical Institute's National Convention Meeting (Connect 05), Sydney, 2005 (Divisional Plenary); 17th ISPPCC, Dublin, 2007 (Keynote); IEEE Lasers and Electro-Optics Society (LEOS) 2005, Sydney, 2005 (Invited); 21st International Conference on Photochemistry, Nara, 2003 (Invited); Gordon Research Conference (GRC) on Organometallic Chemistry, Newport, 2001 (Invited); R&D Laboratories, Eastman Kodak, Rochester, 2001 (Weissberger-Williams Lecture); ICCC34, Edinburgh, 2000 (Golden Jubilee Session lecture); GRC on Inorganic Chemistry, Newport, 1997 (Invited); Pacifichem 2010, 2005, 2000 and 1995, Honolulu (Invited); 5th, 3rd & 1st Asian Photochemistry Conference, Beijing 2008, Mumbai 2002, Hong Kong 1996 (Plenary x 3).

Invited Editorships: Associate Editor, *Inorganic Chemistry* (ACS); Guest Editor, two Special Issues, *Coordination Chemistry Reviews* (Elsevier); Volume Editor, "Coordination and Organometallic Chemistry", *Comprehensive Inorganic Chemistry* (Elsevier); Volume Editor, "Photofunctional Transition Metal Complexes", *Structure and Bonding* (Springer); Member, Editorial Board of SCI journals *Coordination Chemistry Reviews* (Elsevier), *New Journal of Chemistry* (RSC-CNRS), *Philosophical Transactions of the Royal Society A - Mathematical, Physical and Engineering Sciences* (Royal Society), *Photochemical and Photobiological Sciences (RSC), Nano Research* (Springer), *Journal of Photochemistry and Photobiology A: Chemistry*, *Comments on Inorganic Chemistry* (Taylor & Francis), *Science China Chemistry* (Springer), and *Journal of Cluster Science* (Springer); Member, International Editorial Advisory Board of SCI journals *Angewandte Chemie* (Wiley), *Chemical Science* (RSC), *ACS Nano* (ACS), *Chemistry of Materials* (ACS), *Inorganic Chemistry* (ACS), *Organometallics* (ACS), *Progress in Inorganic Chemistry* (Wiley), *Dalton Transactions* (RSC), *New Journal of Chemistry* (RSC-CNRS), *Journal of Organometallic Chemistry* (Elsevier), *Inorganica Chimica Acta* (Elsevier), and *Encyclopedia of Inorganic Chemistry*, 2nd Ed. (Wiley); Co-Editor, "*Advances in Transition Metal Coordination Chemistry*" (JAI Press).

Invited Appointments: Member, European Research Council (ERC) Advanced Grants Panel (Physical Sciences and Engineering) (2007-2013); Member, Research Grants Council (RGC), Hong Kong (2003-07); Member, University Grants Committee (UGC) Research Assessment Exercise (RAE) 2006 Physical Sciences Panel, Research Assessment Ad Hoc Group (RAG), UGC (2005-2007); Panel Member, RGC Physical Sciences Panel, Hong Kong (1999-2004); Member, Assessor Panel, ITF Innovation & Technology Support Programme (2007-12); Chair, Advisory Committee for Institute of Chemistry, Academia Sinica, Taipei (2004-13); Member, Academic Advisory Committee for Academia Sinica, Taipei (2005-13); Member, Search Committee for Director of Institute of Chemistry, Academia Sinica, Taipei (2010); Member, International Advisory Board for PRESTO on "Chemical Conversion of Light Energy", Japan Science and Technology (JST), Japan (2009-); Council Member, Beijing National Laboratory for Molecular Sciences, Peking University-Institute of Chemistry, Chinese Academy of Sciences, Beijing; Frontiers in Chemical Research Distinguished Lectureship, Texas A & M University, USA (2007-08); UPMC Visiting Professor, Université Pierre et Marie Curie, CNRS (Université Paris VI), Paris, France (2007); Visiting Professor, University of Rennes, CNRS, France; Visiting Professor, University of Bordeaux CNRS, France; Molecular Science Forum Lecture Professorship, Institute of Chemistry, CAS; Professor, Jilin University; Guest Professors of Zhejiang and Sichuan University; Chair, Hong Kong International Chemical Sciences – A Chapter of the American Chemical Society (2003-05); Councilor, Asian and Oceanian Photochemistry Association (2002-13).

Experience in Student Supervision: Successfully produced 2 M.Phil. and 49 Ph.D. (HKU), and 3 Ph.D. (Jilin U) graduates.

Service as External Examiner in the Award of Higher Degrees:

Serve as External Examiner for the award of Ph.D. for the Université Bordeaux, CNRS, France; Université Pierre et Marie Curie, CNRS (Université Paris VI), France; University of British Columbia, Canada; University of Melbourne, Australia; University of Zaragoza, Spain and the National University of Singapore, Singapore. Serve regularly as External Examiner for the award of Ph.D. and M.Phil. degrees for The Hong Kong University of Science and Technology, The Chinese University of Hong Kong, City University of Hong Kong, Hong Kong Polytechnic University and Hong Kong Baptist University since 1996.

Organizers and Chairs in International/National Conferences: Organizer, 5th Asian Conference on Coordination Chemistry, Hong Kong, 2015; Organizer, 6th National Conference on Coordination Chemistry (*cum* International Symposium on Coordination Chemistry), Hong Kong, 2009; Organizer, 15th International Symposium on Photophysics and Photochemistry of Coordination Compounds, Hong Kong, 2004; Chemistry Technical Committee Chairman, Gold 2009 (World Gold Council), Heidelberg; Co-organizer, symposia on "Molecular Photonics" and "The Construction of Photofunctional Supramolecular Metal Complexes" in Pacifichem 2010, "Photofunctional Molecular and Supramolecular Metal Complexes" in Pacifichem 2005, "Metal Complex Photochemistry: Applications in Bioinorganic Chemistry, Energy Conversion and Catalysis Research" in Pacifichem 1995, Honolulu; International Advisory Board Member, 42nd IUPAC Congress, Glasgow, 2009; International Advisory Board Member, 37th International Conference on Coordination Chemistry (ICCC37), Cape Town, South Africa, 2006; Executive Chair, Xiangshan Science Conference on Molecular Nano-Technology and Self-Assembly of Metallo-Nanosystems, Beijing, 2003; Vice-Chairman, Asian Photochemistry Conference, Hong Kong, 1996; Country Representative, Planning Committee for International Conference on Coordination Chemistry (ICCC).

Service as External Reviewers in Evaluating Grant Applications and Outstanding Researchers and Research Awards:

NSF Collaborative Research in Chemistry (CRC) Program Grant & NSF Grant, National Science Foundation, USA; DOE (Basic Science) Research Grant, Department of Energy, USA; NSERC Grant, Canada; ERC Synergy Grant, ERC Advanced Grant and ESF COST Grant; Swiss National Science Foundation Grant, Switzerland; Non-thematic Programme «Blanc», Agence Nationale de la Recherche (ANR), France; Austrian Science Fund (FWF), Austria; Hungarian Scientific Research Fund (OTKA), Hungary; Portuguese Foundation for Science and Technology (FCT) Fund, Portugal; National Research Foundation Grant, South Africa; President's Science Awards, A-Star, Singapore; Academic Summit Program, Science Vanguard Research Program, Program for Promoting Academic Excellence of Universities (PPAEU), National Science Council, Taipei; General Research Fund, Research Grants Council, Hong Kong; State Natural Science Award, National Organization of Science and Technology Awards (NOSTA), PR China; National Chair, Ministry of Education, Taipei; Outstanding Research Awards in Chemistry, National Science Council, Taipei.

Service as Member of Funding Bodies and Panel Member in Evaluating Grant Applications:

Member, European Research Council (ERC) Advanced Grants Panel, Physical Sciences and Engineering Panel (2008-2013); Member of the Research Grants Council (RGC), Hong Kong (2003-07); Member of Physical Sciences Panel, Research Grants Council (1999-2004); Member, Assessor Panel, ITF Innovation & Technology Support Programme (2007-12).

Relevant/Representative Publications (A total of > 338 publications in international SCI journals):

1 "Single-Turn Helix-Coil Strands Stabilized by Metal···Metal and π-π Interactions of the Alkynylplatinum(II) Terpyridyl Moieties in *meta*-Phenylene Ethynylene Foldamers", *J. Am. Chem. Soc.*, **2012**, *134*, 1047.

2 "Self-Assembly of Luminescent Alkynylplatinum(II) Terpyridyl Complexes – Modulation of Photophysical Properties Through Aggregation Behavior", *Acc. Chem. Res.*, **2011**, *44*, 424 (invited article; highlighted as Cover Page of Issue 6).

3 "Supramolecular Self-Assembly of Amphiphilic Anionic Platinum(II) Complexes – A Correlation between Spectroscopic and Morphological Properties", *J. Am. Chem. Soc.*, **2011**, *133*, 12136.

4 "Induced Self-Assembly and Förster Resonance Energy Transfer Studies of Alkynylplatinum(II) Terpyridine Complexes Through Interaction with Water-Soluble Poly(phenylene ethynylene sulfonate) and the Proof-of-Principle Demonstration of this Two-Component Ensemble for Selective Label-Free Detection of Human Serum Albumin", *J. Am. Chem. Soc.*, **2011**, *133*, 18775.

5 "Gated Photochromism in Triarylborane-Containing Dithienylethenes: A New Approach to a "Lock-Unlock" System", *J. Am. Chem. Soc.*, **2011**, *133*, 19622.

6 "An Unprecedented Luminescent Polynuclear Gold(I) μ_3-Sulfido Cluster With a Thiacrown-like Architecture", *J. Am. Chem. Soc.*, **2010**, *132*, 17646.

7 "A Versatile Photochromic Dithienylethene-Containing β–Diketonate Ligand: Near-Infrared Photochromic Behavior and Photoswitchable Luminescence Properties Upon Incorporation of Boron(III) Center", *J. Am. Chem. Soc.*, **2010**, *132*, 13992.

8 "High-Efficiency Green Organic Light Emitting Devices Utilizing Phosphorescent Bis-Cyclometalated Alkynylgold(III) Complexes", *J. Am. Chem. Soc.*, **2010**, *132*, 14273.

9 "Unusual Luminescence Enhancement of Metallogels of Alkynylplatinum(II) Bzimpy Complexes Upon a Gel-to-Sol Phase Transition at Elevated Temperature", *J. Am. Chem. Soc.*, **2009**, *131*, 6253.

10 "Photochromic Diarylethene-Containing Ionic Liquids and *N*-Heterocyclic Carbenes", *J. Am. Chem. Soc.*, **2009**, *131*, 912.

11 "Highlights on Recent Advances in Gold Chemistry – A Photophysical Perspective", *Chem. Soc. Rev.*, **2008**, *37*, 1806 (invited).

12 "Single-Stranded Nucleic Acid-Induced Helical Self-Assembly of Alkynylplatinum(II) Terpyridyl Complexes", *Proc. Natl. Acad. Sci. USA*, **2006**, *103*, 19652.

13 "Luminescent Dinuclear Platinum(II) Terpyridine Complexes with a Flexible Bridge and "Sticky Ends"", *Angew. Chem. Int. Ed.*, **2006**, *45*, 6169.

14 "A Chiral Luminescent Au_{16} Ring Self-Assembled from Achiral Components", *J. Am. Chem. Soc.*, **2005**, *127*, 17994 (Editors' Choice, *Science*, **2005**, *310*, 1745).

15 "Supramolecular Assembly of Luminescent Gold(I) Alkynylcalix[4]crown-6 Complexes Having Unprecedented Planar η^2,η^2-Coordination Gold(I) Centers", *Angew. Chem. Int. Ed.*, **2004**, *43*, 4954 ("Hot Paper").

16 "Photochromic and Luminescence Switching Properties of A Versatile Diarylethene-Containing 1,10-Phenanthroline Ligand and Its Rhenium(I) Complex", *J. Am. Chem. Soc.* **2004**, *126*, 12734.

17 "Luminescent Platinum(II) Terpyridyl-Capped Carbon-Rich Molecular Rods – An Extension From Molecular To Nanometer Scale Dimensions", *Angew. Chem. Int. Ed.* **2003**, *42*, 1400.

18 "Molecular Design of Transition Metal Acetylide Complexes as Building Blocks for Luminescent Metal-Based Materials–Structural and Photophysical Aspects", *Acc. Chem. Res.* **2002**, *35*, 555 (invited article).

19 "Solvent-Induced Aggregation through Metal···Metal/π···π Interactions – Large Solvatochromism of Luminescent Organoplatinum(II) Terpyridyl Complexes", *J. Am. Chem. Soc.* **2002**, *124*, 6506.

20 "A Novel Polynuclear Gold-Sulfur Cube with an Unusually Large Stoke's Shift", *Angew. Chem. Int. Ed.*, **2001**, *40*, 1763.

21 "Luminescent Polynuclear d^{10} Metal Complexes" in *Chem. Soc. Rev.*, **1999**, *28*, 323 (invited article).

22 "Proof of Potassium Ions by Luminescence Signalling Based on Weak Gold···Gold Interactions in Dinuclear Gold(I) Complexes", *Angew. Chem. Int. Ed. Engl.*, **1998**, *37*, 2857.

Articles/Reports in the News:

- "Luminescent Organometallics – Materials Synthesized in Hong Kong Exhibit Rich Luminescence Behavior", *Chemical and Engineering News*, **2001**, Vol. *79*, Issue 41 (October 8), p. 28-30.
- "Transmission Color and Emission Brightness Can Be Tuned By Solvent-induced Aggregation", highlighting the communication in *J. Am. Chem. Soc.* **2002**, *124,* 6506-6507 in *Heart Cut* in *Chemical Innovation*, **2002**, July 15 web issue.
- "Ions Induce Isomerization", highlighting the communication in *Angew. Chem. Int. Ed.* **2003**, *42*, 3385-3388 in Science and Technology Concentrate, *Chemical and Engineering News*, **2003**, Vol. *81*, Issue 31 (August 4), p. 25.
- "From Molecules and Metals to Materials", highlighting my keynote lecture in the Report on the 39th IUPAC Congress in Ottawa, *Chemical and Engineering News*, **2003**, Vol. *81*, Issue 37 (September 15), p. 25-29.
- "Golden Chiral Rings", highlighting the communication in *J. Am. Chem. Soc.* **2005**, *127*, 17994-17995 (10.1021/ja0565727) in Editors' Choice in *Science*, **2005**, Vol. *310* (December 16), p. 1745.
- "A Versatile, Multifunctional Ruthenium Complex - This Multifunctional Ruthenium Complex is An "All-Round Player"", highlighting the article in *Chem. Eur. J.* **2006**, *12*, 3528-3537 (which has been selected for highlight as Cover Page of Issue 13 of *Chem. Eur. J.*) in *Heart Cut* in *Chemical Innovation*, **2006**, May 22 web issue.
- "A Golden Crown", highlighting the communication in *Angewandte Chemie International Edition,* **2008**, *47*, 4551-4554 (DOI: l0.l002/anie.20080l00l) in Science and Technology Concentrate, *Chemical and Engineering News*, **2008**, Vol. *86*, Issue 17 (April 28), p. 43.
- "Photochromic Diarylethene-Containing Ionic Liquids and *N*-Heterocyclic Carbenes" in *Journal of the American Chemical Society*, **2009**, *131*, 912-913 (Highlighted in *JACS Select*, Issue 6 on "Diverse Chemical Applications of *N*-Heterocyclic Carbenes").
- Highlighted as "Featured Author" on the ACS Publications Author & Reviewer Resource Center Web Page http://pubs.acs.org/page/4authors/index.html, April -July **2010**.
- News on "L'Oreal UNESCO Award for Vivian W.-W. Yam" in *Angewandte Chemie International Edition*, **2011**, *50*, 7219 in Vol. 50, Issue 32, August 1, **2011**.